DEVICE AND METHOD OF INSTALLING CERAMIC TILES

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Field of the Invention

The present invention relates to ceramic tile installation, and in particular to a device and method of installing ceramic tiles using a step and press process.

Background of the Invention

The number one complaint from consumers of ceramic tiled floors is grout. Grout tends to crack, accumulate mold, mildew, stains and discoloring that often results from the build-up of hard water and calcium deposits.

Another major complaint is, the repairing of cracked or broken grout or ceramic tiles. In the case of cracked or broken grout, the grout is repaired by scraping or chiseling out all the damaged existing grout. Then after thoroughly cleaning the area, mixing and applying new grout. This same procedure is used in replacing cracked or broken ceramic tiles. Cracked, broken tiles or grout must be repaired promptly because the problem becomes insidious spreading throughout the entire area.

The repairing of grout or broken tiles creates another problem: whenever you add or patch new grout to old grout chances are the colors don't match. This forces the consumer to re-grout the whole area adding much expense because to do it right, all the old grout would have to be removed and replaced.

Cracked ceramic tiles normally have a defect in the sub-floor. The main reason is normally that the installer didn't level the mortar good enough at that spot. The tile has to be chiseled out and the sub-floor repaired. After that new grout needs to be applied, often resulting in re-grouting the whole area. Many times I have heard it said that once a tile was replaced there was always a problem with the tiles.

Installing tie directly to a wood surface, chip board, cushioned vinyl flooring, particle boards of any type, luan plywood OSB (Oriented Strand Board), tongue & groove planking, and hardwood floors are unsuitable substrates to directly install ceramic tile over.

Although it can be done successfully, many experts believe that ceramic tile installed directly to plywood surfaces should be avoided whenever possible. Plywood has a smooth surface and tends to swell, warp, and delaminate when it is exposed to moisture.

It would be beneficial however if an apparatus and method designed to do away with the current protocol of the industry's standards of ceramic tile installation existed. The process would be geared towards the installation of ceramic tiles without the use of substrates, mortar, grout, adhesives, backer board, plywood, sealers, latex, grout, removal of pre-existing substrates, expensive repairs, leveling of substrates, mold, mildew, and the limitations of how and where ceramic tiles can and cannot be installed at a fraction of the cost.

Objects and Summary of the Invention

It is an object of the present invention to provide a novel device for installing ceramic tiles to a floor.

It is a further object of the present invention to provide a novel device for installing ceramic tiles to a floor including a sheet, having a top face and a bottom face adapted to mounting on a surface; and a grid formed into the top face of the sheet for receiving ceramic tiles.

It is yet a further object of the present invention to provide a method of installing ceramic tiles using a sheet, having a top face and a bottom face adapted to mounting on a surface; and a grid formed into the top face of the sheet for receiving ceramic tiles, comprising the steps of mounting the sheet on a surface; placing a tile in the grid; securing the tile in the grid; placing additional tiles in the grid; and securing the additional tiles in the grid.

In accordance with a first aspect of the present invention, a novel device for installing ceramic tiles to a floor is provided. The novel device includes a sheet, having a top face and a bottom face adapted to mounting on a surface; a grid formed into the top face of the sheet for receiving ceramic tiles.

In accordance with another aspect of the present invention, a novel method of installing ceramic tiles using a sheet, having a top face and a bottom face adapted to mounting on a surface; and a grid formed into the top face of the sheet for receiving ceramic tiles is provided. The novel method includes the steps of mounting the sheet on a surface; placing a tile in the grid; securing the

tile in the grid; placing additional tiles in the grid; and securing the additional tiles in the grid.

Brief Description of the Drawings

The foregoing summary, as well as the following detailed description of a preferred embodiment of the present invention will be better understood when read with reference to the appended drawings, wherein:

FIGURE 1 is a top plan view of a sheet device for installing ceramic tiles in accordance with the present invention.

FIGURE 2 is a top plan view of an additional sheet device for installing ceramic tiles shown being installed along with the first sheet device of FIGURE 1.

FIGURE 3 is a top plan view of the sheet device for installing ceramic tiles shown with a finished toilet bowl base installed.

FIGURE 4 is a side elevation of the sheet device for installing ceramic tiles of FIGURE 1.

Detailed Description of the Preferred Embodiment

Referring now to the drawings, wherein like reference numerals refer to the same components across the several views and in particular to FIGURES 1

and 4, a device for installing ceramic tiles 10 is shown. The device 10 includes a sheet 11, having a top face 12 and a bottom face 13.

The sheet 11 has formed into the top face 12 a plurality of grids 15. The grids 15 are separated from one another by a series of spacers 16. The spacers 16 run horizontally and vertically the length and the width of the sheet 11. In a preferred embodiment of the present invention, the spacers 16 form the grids 15 into standard tile sizes, however any size for the grids 15 known to one of ordinary skill in the art may be utilized. The bottom face 13 of the sheet 11 is mounted on the floor and requires no adhesive or fasteners to keep it in place, since the weight of ceramic tiles placed into the grids 15 would hold the sheet 11 in place with no movement. This provides the advantage of not requiring any mortar, backerboard, adhesives, moisture barriers, plywood or luan. The bottom face 13 of the sheet 11 serves all these purposes. Additionally, the sheet 11 provides ample insulation between the floor and a person standing on the floor.

In a preferred embodiment of the present invention, the sheets 11 would be manufactured in rolls like carpeting in standard widths of 6, 9, and 12 feet. The lengths of the rolls can be made to accommodate whatever home size is required. Additionally, the sheets 11 may have one edge removed as shown in the device 100 of FIGURE 2.

A preferred method of an installer installing the sheets 11 will now be described. First of all, the area to be tiled gets measured. The area to be installed gets swept and the floor moldings around the bottom of the walls are removed and saved for replacement when the tile job is completed. The area is

then measured for the lay out of the tiles to see where they hit the doorways and walls. Marks are made at the starting point. The installer now would cut the sheets 11 to the size needed and lay the sheets 11 down onto the surface to be tiled. The sheet 11 could be cut for a wall that requires a strip to accommodate it. Once the sheets 11 are in place, reducer strips can be installed to compensate for the floor height and reduce the trip hazard. The strips for the sheets 11 would also be laid out at this time. If waterproofing is desired, a bead of silicone can be put around where the sheets 11 engages the walls.

At this point, the installer can begin installation of the ceramic tiles themselves. The grids 15 would be manufactured such as to allow a very snug fit with the ceramic tiles. In this fashion, a gasket tight fit will prevent spills and water seepage between the tiles. The grid 15 would be elastomeric, so as the tiles are pressed into the grid 15, a seal is formed and each surrounding tile enhances the seal of the tile next to it. Each tile is pressed into the grid 15 to secure the tile, however, a rubber mallet can be used to secure each tile in place if necessary. Finally, any tiles that need to be cut to fit at the wall edges can be tightly pressed into place, and the wall molding can be replaced.

Referring now to FIGURE 2, an additional device 100 is shown being placed next to an existing device 10 to increase the width of the overall device for installing ceramic tile. The edge E of the additional device 100 is cut where needed to make for a more effective fit with the first device 10.

Referring now to FIGURE 3, a device 10 shown with a toilet base B is shown. As shown, the device 10 is cut as needed to accommodate the toilet

base B's installation. A strip S surrounds the periphery of the toilet base B in order to ensure a more secure fit for the ceramic tiles, which would be cut to fit into the grid 15 area surrounding the toilet base B.

In view of the foregoing disclosure, some advantages of the present invention can be seen. For example, a novel device and method of installing ceramic tiles is disclosed. The device and method requires no substrate preparations, no acid wash, no plywood, backerboard or leveling. No removal of existing vinyl or linoleum is necessary, nor is fixing of floor bounce, adhesives, mortar, grout, moisture barriers, scarring or roughing of substrates. Another important feature of the novel device and method of installing ceramic tiles is that no repair future repair or sealing of broken or cracked grout and no mildew, stains, or calcium buildup in the grout. As a result, the novel device and method of installing ceramic tiles provides a far more cost effective and efficient way of installing ceramic tiles than currently exists in the art. Importantly, the novel device and method of installing ceramic tiles allows for immediate use of the tile floor after installation. In this manner it is truly a press and step installation in that no waiting is required before a user can step on the floor after tile installation as opposed to previous methods known in the art, wherein the grout and the adhesives must dry before the floor can be walked on. In some cases, that might require a waiting period of 24 or more hours. An additional advantage is that there is no worry about dirt collecting between the grout and the tiles and no translation of cracks from tile to tile through the grout.

While the preferred embodiment of the present invention has been described and illustrated, modifications may be made by one of ordinary skill in the art without departing from the scope and spirit of the invention as defined in the appended claims.